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SENATE

REPORT
99-338

# AUTHORIZATION OF APPROPRIATIONS FOR THE NATIONAL SCIENCE FOUNDATION FOR FISCAL YEAR 1987

JULY 23 (legislative day, JULY 21), 1986.—Ordered to be printed

Mr. DANFORTH, from the Committee on Commerce, Science, and Transportation, submitted the following

## REPORT

[To accompany S. 2184]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 2184) to authorize appropriations to the National Science Foundation for the fiscal year 1987, and for other purposes, having considered the same, reports favorably thereon with amendments and recommends that the bill do pass.

### PURPOSE OF BILL

The bill authorizes appropriations of $1,685,700,000 for the National Science Foundation (NSF) for fiscal year 1987.

### BACKGROUND AND NEEDS

NSF is an independent Federal agency established by the National Science Foundation Act of 1950 (Public Law 81-507). NSF is unique among Federal agencies in that its primary purpose is to support basic research in all fields of science and engineering. This is in contrast to other agencies, which support research related to their specific missions. NSF funds basic research through grants and other award mechanisms to more than 2,000 colleges and universities and other research institutions in all parts of the United States. NSF selects projects for support after having evaluated the submitted proposals on the basis of merit as determined by the peer review process.

Although NSF represents only about 3 percent of total Federal spending on research and development, it is the primary source of support for fundamental research in U.S. colleges and universities.

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This community is the principal performer of basic research. The Nation's academic institutions provide the training ground for most of the scientists and engineers who staff our industrial, academic, and Government laboratories.

By establishing NSF in 1950, and by continuing to support it, Congress recognizes that support of long-term fundamental research contributes to the strength and well-being of the Nation in many ways. The Nation benefits from significant advances in the fields of science and engineering, although the specifics can seldom be foreseen. These advances contribute to progress in many important areas of Federal responsibility, such as health, environmental, and agricultural research, national defense, and our space program.

More importantly, however, basic research is the foundation upon which our technologically advanced economy is built. Basic research, and the training of technical personnel, improves the ability of American industry to develop and market products successfully in the international marketplace. This is an area which has had too little attention in recent decades, and one in which NSF has much to offer.

## Legislative History

Senator Hatch introduced S. 2184 on March 12, 1986. The bill was referred to the Committee on Labor and Human Resources, which held a hearing on March 26, 1986, and which reported the bill favorably on June 19, 1986. (Senate Report 99–325). Pursuant to an agreement between the Committees and entered on the floor of the Senate, S. 2184 was referred to the Senate Committee on Commerce, Science, and Transportation on June 23, 1986 for 30 days. The Subcommittee on Science, Technology, and Space held a hearing on May 15, 1986. On July 23, 1986, the Committee on Commerce, Science, and Transportation, without objection, ordered the bill reported favorably with amendments.

## Estimated Costs

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the fcllowing cost estimate, prepared by the Congressional Budget Office:

U.S. Congress,
Congressional Budget Office,
*Washington, DC, July 23, 1986.*

Hon. John C. Danforth,
*Chairman, Committee on Commerce, Science and Transportation,*
*U.S. Senate, Washington, DC.*

Dear Mr. Chairman: The Congressional Budget Office has prepared the attached cost estimate for S. 2184, the National Science Foundation Authorization Act for Fiscal Year 1987.

If you wish further details on this estimate, we will be pleased to provide them.

With best wishes,

Sincerely,

RUDOLPH G. PENNER, *Director.*

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: S. 2184.

2. Bill title: National Science Foundation Authorization Act for Fiscal Year 1987.

3. Bill status:

As amended and ordered reported by the Senate Committee on Commerce, Science, and Transportation, July 23, 1986.

4. Bill purpose:

This bill authorizes the appropriation of $1,685.7 million in fiscal year 1987 to provide funding for the activities of the National Science Foundation (NSF). Of that total, $1,479 million is for research and related activities, $117 million is for the U.S. Antarctic Program, $89 million is for science and engineering education activities, and $0.7 million is for the Special Foreign Currency Fund. Additionally, the bill provides for the appointment of NSF assistant directors by the NSF director instead of the President. The bill also establishes an interagency task force on women, minorities, and the handicapped in science and technology.

NSF funding to date for fiscal year 1986 totals $1,458.3 million, after reductions required under the Balanced Budget and Emergency Deficit Control Act of 1985. The President has requested appropriations of $1,685.7 million for fiscal year 1987, the same amount as authorized in S. 2184.

5. Estimated cost to the Federal Government:

[By fiscal years, in millions of dollars]

| | 1987 | 1988 | 1989 | 1990 | 1991 |
|---|---|---|---|---|---|
| Authorization Level | 1,685.7 | | | | |
| Estimated Outlays | 866.5 | 573.0 | 150.2 | 96.0 | |

Including outlays from previous years' appropriations, total 1987 outlays would be $1,598.9 million, assuming appropriation of the authorized amounts.

The costs of this bill fall within budget function 250.

Basis of estimate:

This estimate assumes that all funds authorized will be appropriated and that spending will follow historical patterns.

The bill establishes an interagency task force on women, minorities, and the handicapped in science and technology. This is an expansion of an existing NSF task force. NSF believes that administrative assistance can be provided to the new task force at no significant additional cost.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate:

On June 3, 1986, CBO prepared a cost estimate for S. 2184, as amended and ordered reported by the Senate Committee on Labor

and Human Resources. The estimated costs of both versions of S. 2184 are the same.

On May 28, 1986, CBO prepared a cost estimate for H.R. 4184, a similar bill ordered reported by the House Committee on Science and Technology. H.R. 4184 also authorized the appropriation of $1,685.7 million for NSF, although with different individual program levels. The estimated outlays of that bill are not significantly different from those of S. 2184. H.R. 4184 also reauthorized NSF indemnification of the Ocean Drilling Program, which increased the contingent liabilities of the federal government by an indeterminate amount. S. 2184 contains no such provision.

9. Estimate prepared by: Paul M. DiNardo (226–2860).

10. Estimate approved by: James L. Blum, Assistant Director for Budget Analysis.

## Regulatory Impact Statement

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation:

The bill provides authorization of appropriations to NSF for fiscal year 1987, and extends for 1 year existing programs supported by NSF. The bill confers no new regulatory authority on NSF. Implementation of S. 2184 will not increase Federal regulation of any individuals or businesses. Because there will be no increased Federal regulation, there will be no increased economic effect, effect on personal privacy, or additional paperwork from enactment of the bill.

## Section-by-Section Analysis

### TITLE I

*Section 101*

The first section of title I cites the short title of this title as the "National Science Foundation Authorization Act for Fiscal Year 1987".

*Section 102*

Section 102 authorizes appropriations of $1,685 million for fiscal year 1987 for the programs of NSF in the following categories:

(1) Mathematical and Physical Sciences, $489,870,000.

(2) Engineering, $172,470,000.

(3) Biological, Behavioral, and Social Sciences, $270,500,000.

(4) Geosciences, $298,150,000.

(5) Scientific, Technological, and International Affairs, $47,030,000.

(6) Computer and Information Science and Engineering, $122,980,000.

(7) Program Development and Management, $78,000,000.

(8) United States Antarctic Program, $117 million.

(9) Science and Engineering Education, $89 million.

The Committee is pleased to support requested increase for NSF of 13 percent over the fiscal year 1986 program level. The Commit-

tee agrees with the high priority accorded to activities which contribute to economic competitiveness and innovation.

To help improve economic competitiveness in fiscal year 1987, NSF will expand the Engineering Research Centers program intiated in 1985; will provide enhanced support for research in selected fields with high potential for economic payoff, such as computer science and biotechnology; and will encourage innovation through support of research conducted by small businesses and joint industry-university research ventures.

The Committee is concerned that the United States is losing its ability to compete in international trade. The United States was in an economically dominant position at the end of World War II. Our country had the most advanced technology and the manufacturing and marketing resources to dominate international trade. That favorable position, however, has deteriorated. Today the Nation's trade balance is overwhelmingly negative, and continues to decline. Even in the so-called "high-tech" industries which the country once took for granted, the Nation's lead has virtually disappeared. In addition, our international competitors have increased their productivity 5 to 15 times more than has the United States.

Last year the Report of the President's Commission on Industrial Competitiveness concluded that technology is the United States' single strongest competitive advantage. Technological innovation has been responsible for nearly half of all productivity increases—more than any single factor, including capital and education.

The recent report of the White House Science Council Panel on the Health of U.S. Colleges and Universities stated:

> * * * [O]ur goals in matters of health, economic strength and national security will depend critically on how effectively we deploy our science and technology. This, in turn, depends upon the strength of our science and technology base—upon the flow of new knowledge and trained personnel equipped to utilize that knowledge effectively.

The recommendations made by this panel should be the blueprint for action to strengthen our academic science and engineering base. University laboratories are the source of fundamental understanding and new ideas which underlie all important new technology, and of the new scientists and engineers we need to solve important national problems. The Committee supports the President's statement upon receipt of this report:

> * * * In the highly competitive technological environment that characterizes today's world we must do all that we can to assure the continued excellence of U.S. colleges and universities * * *. I will commend your findings and recommendations to the appropriate Federal agencies for review and follow-up action * * *.

The Committee also endorses, as budget priorities, the NSF's efforts to improve the physical infrastructure needed for research, to develop the scientists and engineers of the future, and to recognize areas of exceptional scientific promise.

To meet the need for state-of-the-art instruments and facilities, the fiscal year 1987 budget calls for increased investment in both

research and instructional instrumentation. In addition, NSF proposes to continue its investment in supercomputing facilities and in the specialized facilities required for \research in physics, astronomy, materials science, and the geosciences.

The Committee applauds the recent National Science Board report on undergraduate science and engineering. The Committee supports the recommendations made to the States, academic institutions, the private sector, and the mission agencies. The Committee believes NSF's role should be to provide strong leadership and leveraged program support. The Committee believes that an important and valuable linkage exists between the research and educational processes which go on at this country's undergraduate institutions. As such, the Committee believes the research directorates have the prime responsibility within NSF for the support of many of the undergraduate activities recommended by the National Science Board's task committee on the subject of undergraduate science and engineering. The Committee looks forward to reviewing the development of NSF's activities in this important area.

The Committee supports NSF's proposals to place special emphasis on certain areas. These areas are:

*Biotechnology:* Biotechnology commercialization in the United States has relied heavily on the fundamental research base. This base needs continued support and thus, in fiscal year 1987, NSF support is to increase by $20 million to a total of $106.5 million. Research in biotechnology is carried out through the Biological and Behavioral Sciences, Engineering, and Mathematical and Physical Sciences activities. The enhanced program will consist of centers, mini-centers, and individual awards.

*Computational Science and Engineering:* NSF supports research in computational science and engineering in all of the research directorates at approximately $57 million. In fiscal year 1987, an additional $27 million (for a total of $84 million) is provided to establish new interdisciplinary teams, to enhance existing centers and groups, and to provide equipment and training opportunities. NSF's effort will provide support for computational science and engineering broadly across all research disciplines, with emphasis on collaborative, multi-disciplinary approaches.

*Global Geosciences:* The fiscal year 1987 budget includes an increase of $18 million (for a total of $35.6 million) for a program which treats the Earth as an integrated system of physical processes. The activities being proposed, which emphasize a series of interrelated research efforts, are part of a major international effort to understand natural phenomena which can have a profound effect on the public welfare and economic conditions of the world. Increased understanding of the planet's processes can lead to more reliable prediction of natural events, such as the El Nino phenomenon and earthquakes and volcanic eruptions, as well as the consequences of human activity, such as acid rain and deforestation.

*Broadening Participation in Science and Engineering Research and Education:* Special efforts have been made for fiscal year 1987 to broaden the participation of groups considered to be under-represented in the science and engineering research and education enterprise. These efforts include an experimental program to stimulate competitive research, which will allow up to eight States to im-

plement plans to improve their scientific and engineering research and training capacity; a new minority Centers of Excellence program, which will establish a number of centers designed to increase the number of minority scientists and engineers; and a continued emphasis on undergraduate research and education agency-wide.

The bill does not include an explicit authorization level for research on ethics and values in science and technology. The Committee, however, continues its strong support for ethics and values research and expects and directs NSF to maintain support for this work. Fiscal year 1986 support for ethics and values research is approximately $500,000. The Committee intends and expects that NSF will continue this program in fiscal year 1987 at least the $500,000 level, and at a higher level if NSF receives the full amount of fiscal year 1987 funding that it has requested. The Committee accepts NSF's policy of having several directorates, especially Biological, Behavioral, and Social Sciences, support this research.

*Section 103*

Section 103 makes appropriations available for obligations for periods specified in appropriations acts. The section also provides that, to the extent the total amount appropriated to NSF is less than the total amount authorized, all such authorized amounts shall be reduced proportionally.

*Section 104*

Section 104 provides that not more than $5,000 may be used for consultation, representation, or extraordinary expenses at the discretion of the Director.

*Section 105*

Section 105 authorizes, in addition to the authorizations of appropriations in section 102, an appropriation not to exceed $700,000 for expenses incurred outside the United States to be paid in excess foreign currencies.

*Section 106*

Sections 106(a) and (b) limit transfer of funds between programmatic categories to less than 10 percent of the total for that category except through written notification to the appropriate Congressional Committees, the President of the Senate, and the Speaker of the House.

Section 106(c) directs the Director, notwithstanding the provisions of subsections (a) and (b), to allocate an additional $4 million to the College Science Instrumentation Program, and an additional $3 million to behavioral and social sciences. The funds are to come from funds available to NSF.

Section 106(d) similarly directs the Director to allocate an additional $4 million to astronomical sciences. The purpose of this provision, which was added by the Commerce Committee, is to rectify some of the unfortunate repercussions on astronomical research of the accident involves the Space Shuttle Challenger. NSF funds ground-based astronomers, many of whom also conduct research

funded by the National Aeronautics and Space Administration on space-based instruments. The Challenger accident has caused a lengthy delay in astronomers' ability to use instruments such as the Hubble Space Telescope, which was to have been launched in the Fall of 1986, but which now will not be launched until at least mid-1988. These astronomers must continue their work on ground-based instruments, and the additional $4 million is intended to help fund this research.

*Section 107*

Section 107 includes three amendments to the National Science Foundation Act of 1950 and related laws. Section 107(a) deletes the requirement that NSF maintain a register of scientists and engineers. Section 107(b) eliminates the requirement that four of NSF's assistant directors be appointed by the President and confirmed by the Senate. Section 107(c) deletes a requirement that there be specific appropriations for scholarships and fellowships.

*Section 108*

Section 108 establishes a task force on women, minorities, and the handicapped in science and technology. The purpose of the task force is to examine the status of women, minorities, and the handicapped in science and engineering positions in the Federal Government and in Federally assisted research programs; to coordinate existing Federal programs to promote the employment of women, minorities, and the handicapped in these positions; to suggest cooperative interagency programs; to identify exemplary State, local, or private sector programs; and to develop a long-range plan to advance opportunities for women, minorities, and the handicapped in Federal and Federally assisted science and technical positions.

Section 108 lists the participating agencies and provides for the members of the task force. Section 108(d) directs the task force to prepare and submit a report to the President, the Congress, and the head of each participating agency by December 31, 1989. The Director of NSF is to provide the task force with administrative support.

*Section 109*

Section 109 repeals title IX of the National Defense Education Act of 1959, which requires NSF to establish a "Science Information Service" and a "Science Information Council." The Council was terminated by the Federal Advisory Committee Act and NSF does not need the authority of title IX to disseminate science information.

*Section 110*

The bill, as reported, includes a new section 110 which directs the President to submit to Congress a report on any action taken or proposed to be taken on the establishment of an International Year of the Greenhouse Effect in calendar year 1991. The section does not establish 1991 as an International Year. Instead, it asks the President for a study of the merits of making 1991 an International Year of the Greenhouse Effect and asks what the President's intentions are in this area.

Recent scientific evidence suggests that higher levels of carbon dioxide and trace gases in the air will increase the amount of heat retained in the lower atmosphere. As a result, world temperatures will rise, causing polar ice to melt, possibly flooding coastal regions, and certainly affecting climate and agriculture. NSF and other Federal agencies have increased their research on this growing problem. The Committee believes that this issue deserves greater attention, and thus has requested the report from the President. The Committee hopes that the President will give the proposal to make 1991 the International Year of the Greenhouse Effect every consideration.

TITLE II

S. 2184, as reported by the Commerce Committee, includes a new title II. This title is identical to S. 2594, a bill introduced on June 24, 1986, by Senators Gore and Gorton. Title II directs the Office of Science and Technology Policy to undertake a study of critical problems and current and future options regarding communications networks for supercomputers at universities and Federal research facilities in the United States.

In the past 2 years, NSF has established five university supercomputer centers. Other Federal agencies also maintain research supercomputers. These new machines offer scientists and engineers unprecedented computing power and speed, and allow them to create sophisticated computer models that provide new insights into such phenomena as atmospheric weather patterns, fusion energy reactions, and biological processes. Use of the new supercomputers has grown sharply.

University researchers and supercomputers are now linked through telephone networks. Computer communications through telephone lines is slow and expensive, however. With supercomputer communications growing rapidly, communications needs may soon outstrip the capabilities of current technology. New communication technologies offer great potential, however. Fiber optic systems, especially, offer great advantages in capacity, reliability, cost, and security.

To ensure that the Nation's research supercomputer programs remain viable and cost-effective in the years to come, and to take full advantage of the benefits offered by research supercomputers, the Committee believes that a study should be undertaken now to evaluate supercomputer networking needs and options. Because several Federal agencies support or maintain research supercomputers, the Committee believes that the White House Office of Science and Technology Policy should perform the study, with the active participation of NSF and other agencies.

Title II directs that the networking study include an analysis of three topics: the networking needs of the Nation's academic and Federal research supercomputer programs; the benefits and opportunities that an improved computer network would offer; and the networking options available for linking academic and other federally supported supercomputers. The Office of Science and Technology Policy shall, within 1 year after the date of enactment of this act, report to the Congress on the findings from this study.

## CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new material is printed in italic, existing law in which no change is proposed is shown in roman):

## THE NATIONAL SCIENCE FOUNDATION ACT OF 1950

### Section 3 of That Act

SEC. 3. (a) The Foundation is authorized and directed—

(1) to initiate and support basic scientific research and programs to strengthen scientific research potential and science education programs at all levels in the mathematical, physical, medical, biological, social, and other sciences, and to initiate and support research fundamental to the engineering process and programs to strengthen engineering research potential and engineering education programs at all levels in the various fields of engineering, by making contracts or other arrangements (including grants, loans, and other forms of assistance) to support such scientific, engineering and educational activities.

(2) to award, as provided in section 10, scholarships and graduate fellowships for study and research in the sciences or in engineering.

(3) to foster the interchange of scientific and engineering information among scientists and engineers in the United States and foreign countries;

(4) to foster and support the development and use of computer and other scientific and engineering methods and technologies, primarily for research and education in the sciences and engineering;

(5) to evaluate the status and needs of the various sciences and fields of engineering as evidenced by programs, projects, and studies undertaken by agencies of the Federal Government, by individuals, and by public and private research groups, employing by grant or contract such consulting services as it may deem necessary for the purpose of such evaluations; and to take into consideration the results of such evaluations in correlating the research and educational programs undertaken or supported by the Foundation with programs, projects, and studies undertaken by agencies of the Federal Government, by individuals, and by public and private research groups;

[(6) to maintain a current register of scientific and engineering personnel, and in other ways to provide a central clearinghouse for the collection, interpretation, and analysis of data on the availability of, and the current and projected need for, scientific and engineering resources in the United States, and to provide a source of information for policy information by other agencies of the Federal Government; and]

*(6) to provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering re-*

*sources and to provide a source of information for policy formation by other agencies of the Federal Government; and*

(7) to initiate and maintain a program for the determination of the total amount of money for scientific and engineering research, including money allocated for the construction of the facilities wherein such research is conducted, received by each educational institution and appropriate nonprofit organization in the United States, by grant, contract, or other arrangement from agencies of the Federal Government, and to report annually thereon to the President and the Congress.

(b) * * *

Section 6 of That Act

SEC. 6. [(a)] There shall be a Deputy Director of the Foundation (referred to in this Act as the "Deputy Director") who shall be appointed by the President, by and with the advice and consent of the Senate. Before any person is appointed as Deputy Director, the President shall afford the Board and the Directors an opportunity to make recommendations to him with respect to such appointment. The Deputy Director shall receive basic pay at the rate provided for level III of the Executive Schedule under section 5314 of title 5, United States Code, and shall perform such duties and exercises such powers as the Director may prescribe. The Deputy Director shall act for, and exercise the powers of, the Director during the absence or disability of the Director or in the event of a vacancy in the office of the Director.

[(b) There shall be four Assistant Directors of the Foundation (each referred to in this Act as an "Assistant Director") who shall be appointed by the President, by and with the advice and consent of the Senate. Before any person is appointed as an Assistant Director, the President shall afford the Board and the Director an opportunity to make recommendations to him with respect to such appointment. Each Assistant Director shall receive basic pay at the rate provided for level V of the Executive Schedule under section 5316 of title 5, United States Code, and shall perform such duties and exercise such powers as the Director may prescribe.]

Section 10 of That Act

The Foundation is authorized to award[, within the limits of funds made available specifically for such purpose pursuant to section 16,] scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, social, and other sciences at appropriate nonprofit American or nonprofit foreign institutions selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens or nationals of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellow-

ships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships throughout the United States. Nothing contained in this Act shall prohibit the Foundation from refusing or revoking a scholarship or fellowship award, in whole or in part, in the case of any applicant or recipient, if the Board is of the opinion that such award is not in the best interests of the United States.

# TITLE 5, UNITED STATES CODE

Section 5316 of That Title

**§ 5316. Positions at level V**

Level V of the Executive Schedule applies to the following positions, for which the annual rate of basic pay shall be the rate determined with respect to such level under chapter 11 of title 2, as adjusted by section 5318 of this title:

* * * * * * *

Director of Science and Education, Department of Agriculture.

Deputy Commissioner of Internal Revenue, Department of the Treasury.

[Assistant Directors, National Science Foundation (4).]

Deputy Director, Policy and Plans, United States Information Agency.

Deputy General Counsel, Department of Defense.

Associate Director of the Federal Mediation and Conciliation Service.

Associate Director for Volunteers, Peace Corps.

* * * * * * *

# THE NATIONAL DEFENSE EDUCATION ACT OF 1959

Title IX of That Act

[TITLE IX—SCIENCE INFORMATION SERVICE

[FUNCTIONS OF THE SERVICE

[SEC. 901. The National Science Foundation shall establish a Science Information Service. The Foundation, through such Service, shall (1) provide, or arrange for the provision of, indexing, abstracting, translating, and other services leading to a more effective dissemination of scientific information, and (2) undertake programs to develop new or improved methods, including mechanized systems, for making scientific information available.

[SCIENCE INFORMATION COUNCIL

[SEC. 902. (a) The National Science Foundation shall establish, in the Foundation, a Science Information Council (hereafter in this title referred to as the "Council") consisting of the Librarian of

Congress, the director of the National LIbrary of Medicine, the director of the Department of Agriculture library, and the head of the Science Information Service, each of whom shall be ex officio members, and fifteen members appointed by the Director of the National Science Foundation. The Council shall annually elect one of the appointed members to serve as chairman until the next election. Six of the appointed members shall be leaders in the fields of fundamental science, six shall be leaders in the fields of librarianship and scientific documentation, and three shall be outstanding representatives of the lay public who have demonstrated interest in the problems of communication. Each appointed member of such Council shall hold office for a term of four years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed only for the remainder of such term, and (2) that of the members first appointed, four shall hold office for a term of three years, four shall hold office for a term of two years, and three shall hold office for a term of one year, as designated by the Director of the National Science Foundation at the time of appointment. No appointed member of the Council shall be eligible for reappointment until a year has elapsed since the end of his preceding term.

[(b) It shall be the duty of the Council to advise, to consult with, and to make recommendations to, the head of the Science Information Service. The Council shall meet at least twice each year, and at such other times as the majority thereof deems appropriate.

[(c) Persons appointed to the Council shall, while serving on business of the Council, receive compensation at rates fixed by the National Science Foundation, but not to exceed $100 per day, and shall also be entitled to receive an allowance for actual and necessary travel and subsistence expenses while so serving away from their places of residence.

[AUTHORITY FOR CERTAIN GRANTS AND CONTRACTS

[SEC. 903. In carrying out its functions under this title, the National Science Foundation shall have the same power and authority it has under the National Science Foundation Act of 1950 to carry out its functions under that Act.

[APPROPRIATIONS AUTHORIZED

[SEC. 904. There are hereby authorized to be appropriated for the fiscal year ending June 30, 1959, and for each succeeding fiscal year, such sums as may be necessary to carry out the provisions of this title.]

○